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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,012	12/04/2001	Makoto Kitamura	018976-206	7969

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EXAMINER

NGUYEN, THUKHANH T

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/000,012

Applicant(s)

KITAMURA ET AL.

Examiner

Thu Khanh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 17-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 11, 13-15 and 22 are again rejected under 35 U.S.C. 102(b) as being anticipated by Maekawa et al (3,663,147).

Maekawa et al teach a rotary press-molding apparatus, comprising
a mold-transfer mechanism (unshown; col. 3, lines 25-27) for driving a mold support plate (Fig. 6, 53), a die (52) and lower punches units (301-317) through different stages around a circumference in a horizontal plane (col. 3, lines 20-28);

a pressing driving mechanism (61-64) for driving the punch units for pressing in the pressing stage;

a connecting mechanism (121-123) for connecting punch units to the pressing driving mechanism when the mold is transferred to the pressing stage and for releasing the connection of the punch units;

and a unit holding mechanism (82, 123a) for holding the punch units while the units are transferred to the next stage.

The apparatus further discloses a charging driving mechanism (82; Fig. 6, 401; col. 3, lines 60-65) for driving the punch units to form a space to be filled with powder in the powder supply stage; a connecting mechanism (7; 201a-217a; 301a-317a) for connecting the punch units

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to the charging driving mechanism when the mold is transferred to the powder supply stage, and for releasing the connection of the punch units when the mold is transferred to the next stage; and a unit holding mechanism (51, 53) for holding the punch units while the mold is transferred to the next stage; and a taking-out mechanism for driving the punch units in the formed-product removing stage (10, col. 4, lines 5-14) to take out the formed product; a connecting mechanism (82, 7; 216a, 316a) for connecting the punch units to the taking-out driving mechanism when the mold is transferred to the formed-product removing stage, and for releasing the connection of the punch units when the mold is transferred to the next stage; and a unit holding mechanism (51, 53) for holding the punch units while the mold is transferred to the next stage.

In regard to claims 14-15, the apparatus also comprises other stations for charging materials to be molded into the die cavities, for ejecting the finished tablets, and for preparatory or complementary to the major compression (col. 3, lines 49-56).

The apparatus also comprises a powder supply means (9) for charging the powder material (8) into the die (401) and a product take-out mechanism (11) for removing the formed product from the die (col. 4, lines 21-23).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa et al (3,663,147) in view of Hudson (4,789,323).

Maekawa et al disclose a tablet forming apparatus as described above, but fail to disclose that the upper and lower punches each has a first and a second section that are individually driven by a cylinder.

Hudson teaches a ring making apparatus a rotary table (13) for transferring a mold containing a die (16) and a punch units (18, 26) between a powder supply stage (48), a pressing stage (29), and a product removal stage (42; col. 5, lines 6-10); a pressing driving means (12) for driving the punch units at the pressing stage; a charging driving mechanism (48-50); a product take-out mechanism (42); a connecting mechanism (10, 11, 27) for connecting the punch units to the press driving mechanism, the charging driving mechanism, and a product takeout mechanism; a unit holding mechanism (21, 29) for holding the punch units while the units are transferred to the next stage; wherein the punch units each includes a first and second upper punches (31, 34) and a first and second lower punches (23, 26); and actuators (24, 33, 12) for independently driving the punches.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Maekawa et al by providing punch units having a first and second upper punch sections and a first and second lower punch sections that are driven by cylinders as taught by Hudson, because the different punch sections would form a product that have different thickness or having an opening.

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5. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa et al (3,663,147) in view of Hudson (4,789,323) and further in view of Nakagawa et al (5,647,410).

Maekawa et al disclose a powder pressing apparatus as described above, but fail to disclose the punches are driven by a driving shaft, including a strut, a ball screw, a servomotor and a timing belt.

Nakagawa et al disclose a powder-molding machine, comprising an upper punch (13) and a lower punch (14) being driven by a ball-bearing nut (16, 18), ball bearing screws (12, 15), a servomotor (17, 19) and a timing belt (22, 25).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Maekawa et al by providing a punch-driving means including a ball bearing nut, ball bearing screws, a servomotor and a timing belt as taught by Nakagawa et al, because this driving means with the servomotor and timing belt would enable accurate control the position of the punches toward and away from each other.

6. Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa et al (3,663,147) in view of Bogue et al (5,653,926).

Maekawa et al disclose tablet forming apparatus including the die and the punches are rotatable, but fail to disclose that the mold transfer mechanism includes a linear table to transfer the mold linearly along the processing line.

Bogue discloses a linear mold transfer mechanism (70) for automatically transfer the die punches (col. 8, lines 7-9) along a linear processing line.

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It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Maekawa et al by providing a linear table as taught by Bogue, because different molding station could be arranged linearly instead of arranged along a rotary table.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa et al (3,663,147) in view of Shapiro (3,677,673).

Maekawa et al fail to disclose a cleaning stage for removing powder adhering to the die and to the punch units.

Shapiro discloses a rotary press for compressing powder material, comprising a rotary table (36), a plurality of dies (52) with a plurality of punches, a feed means (50), vacuum means (60) circumferentially located on the upper surface of the rotary table to remove excess powdered material from the mold cavities (col. 4, lines 47-58).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Maekawa et al by providing a cleaning means as taught by Shapiro, because the cleaning means would remove excess material from the dies and the rotary table to prevent contamination during the molding process.

Allowable Subject Matter

8. Claims 5, 7, 20-21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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9. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest an apparatus comprising a connecting mechanism comprising clamp bodies fixed to each of the pressing driving mechanism, the charging driving mechanism, and the taking out driving mechanism, sliding claws movably supported on each of the clamp bodies; and an advancing receding driving mechanism which advances or recedes each of the sliding claws between a clamping position and an unclamping position; a pressing driving mechanism with a connecting mechanism for connecting and releasing the punch units at the pressing stage; a charging driving mechanism with a connecting mechanism for connecting and releasing the punch units at the charging stage, and a taking-out driving mechanism; wherein the charging driving mechanism and the taking-out driving mechanism each including driving shafts connected to the first and second lower punches and actuators for independently driving the shafts.

Response to Arguments

10. Applicant's arguments filed 08/02/2004 and 11/24/2004 have been fully considered but they are not persuasive.

11. The Applicants have alleged that nothing in Maekawa et al teaches or suggest "a) a mold-transfer mechanism transferring lower punch units between a plurality of stages, b) a connecting mechanism having upper punch units and c) a unit holding mechanism holding the lower punch units while transferring to the next stage."

However, Maekawa et al do disclose a mold-transfer mechanism (an unshown mechanism; col. 3, lines 25-28) for rotating a rotary table (52) containing a plurality of die

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cavities and the punch units through different stages (col. 3, lines 20-28), a connecting mechanism (121-123) for connecting the punch units to the pressing member, wherein the connecting mechanism engaging the upper punches (Fig. 7), and a unit holding mechanism (53) for holding the lower punch units while transferring to the next stage.

Although Maekawa et al fail to disclose that the upper punch is provided only at the pressing station, the language of claim 1 does not limit the punches to be provided at other stations. The term “comprising” means that the punch is included at the pressing driving mechanism, but it does not limit the punch to be provided only at that stage and it does not exclude the fact that the upper punch units are movable through different molding stages along with the lower punch units as disclosed by Maekawa et al.

In regard to the new added support plate, Maekawa et al disclose a movable lower plate (53) for supporting and holding the lower punches (302-317) during the transferring of these punches through different stations. Maekawa also disclose a lower supporting plate (82) for holding and supporting the punches (302-317).

Conclusion


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Khanh T. Nguyen whose telephone number is 571-272-1136. The examiner can normally be reached on Monday- Friday, 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin L. Utech can be reached on 571-272-1137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN



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